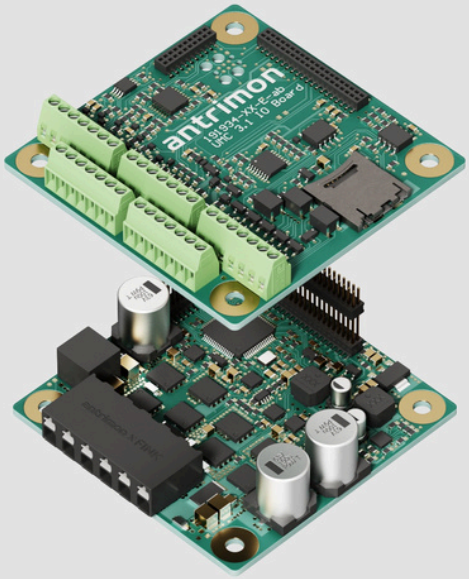
antrimon
moving forward



Universal Motion Control - UMC 3.0

modular drive system

scalable, customer specific motion control solutions

Product overview

The UMC 3.0 (Universal Motion Control) is a modular motion control platform designed for the precise control of:

- BLDC motors
- DC motors
- Stepper motors
- Brake control systems

It was developed for industrial, automation, medical technology and robotics applications and enables customer-specific drive solutions with the shortest possible time-to-market.

Key features & USPs

• Modularity	Scalable modular system with plug-in extension boards.
• Interoperability	Comprehensive communication interfaces for easy integration.
• High-precision control:	Current, speed and position control (FOC).
• Compact design:	High power density in compact dimensions.
• Industry-4.0:	Real-time monitoring, diagnostics and networking.

Technical Data

Parameter	Value
Operating voltage	12 - 48 VDC
Rated current (RMS)	15 A
Motor types	DC, BLDC, Stepper
Feedback systems	Quadrature encoder, Sin/Cos encoder, SSI encoder, hall sensors
Communication & Peripherals	CAN, CANopen, UART, RS232 analogue I/O (0-6), digital I/O (0-8), SD card
Dimensions	60x60x26 mm

Functional features

- Field-Oriented Control (FOC)
- Cascade control: current – speed – position
- Separation of logic and power stages
- Real-time monitoring of current, position and speed
- Data logging to SD card

Software-Architecture

- STM32-based embedded architecture with HAL
- Modular motor control and I/O libraries
- Customer-specific application software
- Communication via CAN, CANopen, UART, RS232
- Configuration and test interface

Functional Safety

(optional, not included in the standard product)

- Safe Torque Off (STO)
- External hardware watchdog
- Monitoring of CPU activity
- Designed in accordance with EN ISO 13849-1

Typical Applications

- Industrial automation
- Robotics and mobile systems
- Medical technology
- Special-purpose machinery and OEM series production